

CLAIMS

We Claim:

- 1 1. A transportable container having an internal environment isolated from
2 ambient atmospheric conditions, comprising:
3 a sensor, monitoring a condition of said internal environment, and
4 transmitting data related to said monitored condition; and,
5 a power supply, providing power to said sensor.
- 1 2. The transportable container of Claim 1, wherein said sensor continuously
2 and non-invasively monitors said condition of said internal environment within
3 said container.
- 1 3. The transportable container of Claim 1, wherein said data is transmitted
2 using electromagnetic radiation.
- 1 4. The transportable container of Claim 3, wherein said electromagnetic
2 radiation is in a frequency range of about 3 kHz to about 300 GHz.
- 1 5. The transportable container of Claim 1, wherein said sensor comprises a
2 memory for storing said data related to said monitored condition.
- 1 6. The transportable container of Claim 1, further comprising:

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2 an internal portion of said transportable container, wherein said sensor is
3 mounted to the internal portion of said transportable container.

1 7. The transportable container of Claim 1, further including a second sensor,
2 monitoring a condition of said internal environment within said transportable
3 container, and transmitting data related to said monitored condition.

1 8. The transportable container of Claim 1, wherein said sensor includes a
2 plurality of sensor inputs positioned at respective distinct locations within said
3 transportable container, each said sensor input monitoring said condition of said
4 internal environment at said respective distinct locations within said container.

1 9. The transportable container of Claim 1, further including:
2 a transceiver in communication with said sensor, receiving and transmitting
3 said data transmitted by said sensor.

1 10. The transportable container of Claim 9, wherein said transceiver is
2 connected with said transportable container, and wherein said data is transmitted
3 over a network bus.

1 11. The transportable container of Claim 9, wherein said data is transmitted
2 between said sensor and said transceiver using electromagnetic radiation.

1 12. The transportable container of Claim 11, wherein said electromagnetic
2 radiation is in a frequency range of about 3 kHz to about 300 GHz.

1 13. A transportable container monitoring system for monitoring an internal
2 environmental condition of a transportable container having an internal
3 environment isolated from ambient atmospheric conditions, the transportable
4 container monitoring system comprising:

5 a sensor, monitoring said internal environmental condition, and transmitting
6 data representative of said monitored internal environmental condition; and,

7 a transceiver in communication with said sensor, receiving and transmitting
8 said transmitted data.

1 14. The transportable container monitoring system of Claim 13, wherein said
2 transportable container is positioned on a processing tool, and wherein said
3 transceiver is operatively connected with said processing tool.

1 15. The transportable container monitoring system of Claim 14, wherein said
2 transceiver provides said data to said processing tool, and said processing tool
3 deactivates if said data is not within a desired operating range.

1 16. The transportable container monitoring system of Claim 13, further
2 including:

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3 a second transceiver, at a location external to said transportable container,
4 for receiving and transmitting said data transmitted by said transceiver.

1 17. The transportable container monitoring system of Claim 16, further
2 including:

3 a host computer receiving and processing said data transmitted from said
4 second transceiver.

1 18. The transportable container monitoring system of Claim 17, wherein said
2 host computer is at a remote location relative to said transportable container.

1 19. The transportable container monitoring system of Claim 17, wherein said
2 host computer determines if said monitored internal environmental condition
3 within said transportable container is within a desired operating range.

1 20. The transportable container monitoring system of Claim 19, wherein said
2 container is positioned on a processing tool, and wherein said host computer
3 deactivates said processing tool if said internal environmental condition is not
4 within said desired operating range.

1 21. A transportable container having an internal environment isolated from
2 ambient atmospheric conditions, comprising:

3 a plurality of sensors, each sensor monitoring an internal environmental
4 condition within said transportable container;

5 a transceiver in communication with said plurality of sensors, receiving and
6 transmitting said data transmitted by said plurality of sensors; and,

7 a power supply, providing power to said at least one sensor and said
8 transceiver.

1 22. The transportable container of Claim 21, wherein at least one of said
2 sensors in said plurality of sensors is selected from a group comprising:

3 a temperature sensor;

4 a humidity sensor; and

5 an accelerometer sensor.

1 23. The transportable container of Claim 21, wherein at least one of said
2 plurality of sensors includes a plurality of sensor inputs, mounted with said internal
3 portion of said container at distinct locations, sensing an internal environmental
4 condition within said container at said respective distinct locations.

1 24. The transportable container of Claim 21, wherein said communication
2 between said plurality of sensors and said transceiver is performed over a network
3 bus.

1 25. A transportable container sensor network, for monitoring internal
2 environmental conditions within a transportable container, comprising:

3 a network bus;
4 a transceiver, connected with said network bus;
5 a plurality of network nodes, connected with said network bus; and,
6 a plurality of sensors, connected with said network nodes, wherein said
7 sensors monitor said internal environment conditions within said transportable
8 container, and provide data to said network nodes related to said internal
9 environment conditions.

1 26. The transportable container sensor network of Claim 25, wherein said
2 plurality of network nodes are configured as a master-slave network, and wherein
3 said network bus functions as a gateway.

1 27. The transportable container sensor network of Claim 25, wherein said
2 plurality of network nodes are configured as a pier-to-pier network.

1 28. A method for monitoring an internal environmental condition within a
2 transportable container having an internal environment isolated from ambient
3 atmospheric conditions, comprising the steps of:

4 monitoring with a sensor, said internal environmental condition within said
5 transportable container;
6 generating data related to said monitored condition; and,

7 transmitting said data.

1 29. The method of Claim 28, further including the steps of:

2 receiving said data at a location external to said transportable container;

3 and,

4 processing said data to determine if said internal environmental condition

5 is within a desired operating range.

1 30. The method of Claim 28, wherein said step of monitoring includes

2 monitoring a plurality of internal environmental conditions with a plurality of

3 sensors.

1 31. The method of Claim 28, wherein said data is transmitted using

2 electromagnetic radiation.

1 32. The method of Claim 31, wherein said electromagnetic radiation is in a

2 frequency range between about 3 kHz to about 300 Ghz.

1 33. The method of Claim 28, further including the steps of:

2 determining whether said internal environmental condition is within a

3 desired operating range; and,

4 alerting an operator if it is determined that said internal environmental

5 condition is not within a desired operating range.

